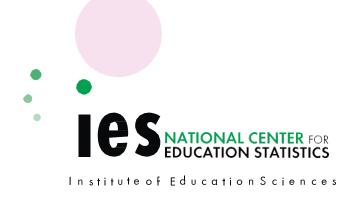
# Characteristics of Public Elementary and Secondary School Teachers in the United States:

Results From the 2015–16 National Teacher and Principal Survey

First Look



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**AUGUST 2017** 

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### Introduction

The 2015–16 National Teacher and Principal Survey (NTPS) is a nationally representative sample survey of public K–12 schools, principals, and teachers in the 50 states and the District of Columbia. This report presents selected findings from the Public School Teacher Data File of NTPS. NTPS is a redesign of the Schools and Staffing Survey (SASS). SASS was conducted on behalf of the National Center for Education Statistics (NCES) on a 4-year cycle, beginning with the 1987–88 school year and ending in the 2011–12 school year. NTPS maintains the same focus on schools, teachers, and administrators that was traditionally held by the SASS; however, it has a different structure and sample than previous administrations of SASS and operates on a 2-year survey cycle. NTPS collects data on core topics including teacher and principal preparation, classes taught, school characteristics, and demographics of the teacher and principal labor force. It is developed by the NCES of the Institute of Education Sciences within the U.S. Department of Education and conducted by the U.S. Census Bureau. This report represents the initial results of the first collection of NTPS.

The purpose of NTPS is to collect information that can provide a detailed picture of U.S. elementary and secondary schools and their staff. This information is collected through school, principal, and teacher surveys, and information can be linked across all three surveys.

The 2015–16 NTPS uses a school-based sample of public schools. Because of this school-based design, principals associated with public schools were included in the sample. Teachers associated with a selected school were sampled from a teacher list provided by the school, collected from school websites, or purchased from a vendor. The selected samples include about 8,300 traditional and charter public schools and public school principals, and 40,000 public school teachers. The samples were drawn to support estimates by geography, grade span, and charter school status. The reader is referred to the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming) for details about these estimation domains and their precision criteria.

The data were collected via mailed questionnaires and internet instruments with telephone and in-person field follow-up. The first questionnaires were mailed in September 2015, and data collection ended in August 2016. The weighted unit response rate was 67.8 percent for public school teachers. For detailed information about response rates, bias analysis results, methodology, and design of the 2015–16 NTPS, please see the technical notes of this report in appendix B or the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming).

The purpose of this First Look report is to introduce new data through the presentation of tables containing descriptive information. Selected findings chosen for this report demonstrate the range of information available on the 2015–16 NTPS Public School Teacher Restricted-Use Data File. The selected findings do not represent a complete review of all observed differences in the data and are not meant to emphasize any issue. This First Look report highlights findings from the NTPS public school teacher survey. Findings from the school and principal surveys will be presented in two companion First Look reports:

- Characteristics of Public Elementary and Secondary School Principals in the United States: Results From the 2015–16 National Teacher and Principal Survey First Look (NCES 2017-070); and
- Characteristics of Public Elementary and Secondary Schools in the United States: Results From the 2015–16 National Teacher and Principal Survey First Look (NCES 2017-071).

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<sup>&</sup>lt;sup>1</sup> Public schools include traditional public and charter schools.

The tables in this report contain frequencies and percentages demonstrating bivariate relationships. All results have been weighted to reflect the sample design and to account for nonresponse and other adjustments. Comparisons drawn in the selected findings have been tested for statistical significance at the .05 level using Student's *t* statistics to ensure that the differences are larger than those that might be expected due to sampling variation. While the selected findings include only statistically significant findings they do not include every statistically significant comparison. No adjustments were made for multiple comparisons. Many of the variables examined are related to one another, and complex interactions and relationships have not been explored. Statistical Analysis Software (SAS 9.4) and SUDAAN (11.1) were used to compute the statistics for this report. Tables of standard errors are provided in appendix A. Detailed information about the survey methodology is provided in appendix B. Appendix C contains a description of the variables used in this report.

More information about NTPS can be found at <a href="https://nces.ed.gov/surveys/ntps.">https://nces.ed.gov/surveys/ntps.</a>

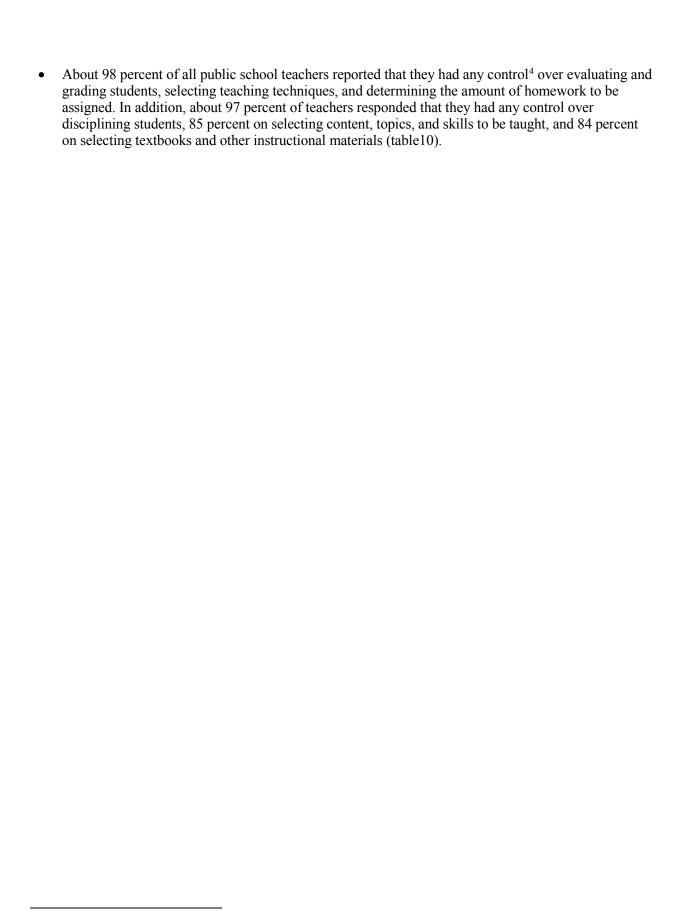
## **Selected Findings**

- In the 2015–16 school year, there were an estimated 3,827,100 teachers in public elementary and secondary schools in the United States. About 3,608,600 taught in traditional public schools and about 218,500 taught in charter schools. About 80 percent of all public school teachers were non-Hispanic White, 9 percent were Hispanic, 7 percent were non-Hispanic Black, and 2 percent were non-Hispanic Asian (table 1).
- Among public school teachers, 77 percent were female and 23 percent were male. In addition, relatively more women were teachers in primary schools (89 percent) than in middle schools (73 percent), combined schools (70 percent), and high schools (59 percent) (table 2).
- On average, public school teachers had about 14 years of experience. In addition, teachers in traditional public schools had relatively more teaching experience on average (14 years) than teachers in public charter schools (10 years) (table 3).
- The largest percentage of public school teachers listed a master's degree as their highest degree earned (47 percent), followed by a bachelor's degree (41 percent). Relatively more teachers in traditional public schools listed a master's degree as their highest degree (48 percent) than those in public charter schools (38 percent) (table 4).
- On average, regular full-time teachers in public schools spent 53 hours per week on all school-related activities, including 27 hours that they were paid to deliver instruction to students during a typical full week. Public school teachers were required to work an average of 38 hours per week to receive their base pay (table 5).
- In 2015–16, the average base salary<sup>2</sup> of regular full-time teachers in public schools was \$55,100. Among public school teachers reporting earnings from their school system for extracurricular or additional activities during the school year, the average amount was \$2,600. Similarly, the average amount earned from jobs outside the school system by public teachers reporting this income source was \$5,100 (table 6).
- Among teachers in self-contained classrooms, the average class size was 21 students in primary schools, 14 students in middle schools, 15 students for high schools, and 16 students for combined-grade schools. Among departmentalized teachers, the average class size was 27 for primary and middle schools, 26 for high schools, and 22 for combined-grade schools (table 7).
- Among all public schools teachers who took graduate or undergraduate courses before their first year of teaching, about 79 percent had any courses on lesson planning, 76 percent had any courses on learning assessment, 74 percent on classroom management techniques, 70 percent on serving students with special needs, 64 percent on serving students from diverse economic backgrounds, 53 percent on using student performance data to inform instruction, and 38 percent on teaching students who are limited-English proficient or English-language learners (table 8).
- Among all public school teachers, 84 percent thought they had any influence<sup>3</sup> on establishing curriculum, 82 percent thought they had any influence on determining the content of in-service programs, 81 percent thought they had any influence on setting performance standards for students at their school, 74 percent thought they had any influence on setting discipline policy, 60 percent thought they had any influence on hiring new full-time teachers, 53 percent thought they had any influence on deciding how the school budget would be spent, and 49 percent thought they had any influence on evaluating teachers (table 9).

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<sup>&</sup>lt;sup>2</sup> Average base salary is for the school year; summer earnings are not included. Teachers who reported a base salary of zero are excluded.

<sup>&</sup>lt;sup>3</sup> Teachers who reported "minor influence," "moderate influence," or "a great deal of influence" were considered to have reported having "any influence."



<sup>&</sup>lt;sup>4</sup> Teachers who reported "minor control," "moderate control," or "a great deal of control" were considered to have reported having "any control."

## References

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## **Estimate Tables**

Table 1. Total number of public school teachers and percentage distribution of public school teachers, by race/ethnicity and selected school characteristics: 2015–16

		Percent of teachers by race/ethnicity								
Selected school characteristic	Total number of teachers	Hispanic, regardless of race	White, non- Hispanic	Black, non- Hispanic	Asian, non- Hispanic	Native Hawaiian/ Pacific Islander, non- Hispanic	American Indian/Alaska Native, non- Hispanic	Two or more races, non-Hispanic		
All public schools	3,827,100	8.8	80.1	6.7	2.3	0.2	0.4	1.4		
School classification										
Traditional public	3,608,600	8.5	80.7	6.5	2.2	0.2	0.4	1.4		
Charter school	218,500	14.0	71.2	9.4	2.5	0.3 !	0.2 !	2.4		
Community type										
City	‡	‡	‡	‡	‡	‡	‡	‡		
Suburban	1,512,900	8.5	81.9	5.6	2.2	0.2	0.3	1.3		
Town	416,400	5.7	87.9	3.3	0.8	0.3	0.8	1.2		
Rural	718,100	4.1	89.4	3.9	0.6	0.1!	1.0	0.9		
School level										
Primary	1,820,100	9.6	79.7	6.6	2.4	0.2	0.4	1.1		
Middle	681,000	7.9	80.6	7.5	1.8	0.2	0.5	1.5		
High	1,097,800	8.7	80.0	6.3	2.5	0.3	0.4	1.8		
Combined	228,200	6.2	82.9	6.4	1.6	0.3!	1.0	1.6		
Student enrollment										
Less than 100	59,600	7.4	83.4	6.2	‡	‡	‡	1.9		
100–199	117,100	8.4	80.1	6.9	1.4 !	0.5 !	1.2 !	1.5		
200–499	1,074,700	5.7	83.9	6.5	1.9	0.2 !	0.6	1.2		
500-749	1,066,000	10.1	79.2	6.8	2.3	0.2	0.3	1.2		
750–999	552,600	9.6	78.8	7.4	2.4	0.2 !	0.5	1.1		
1,000 or more	957,100	10.6	77.5	6.3	2.8	0.4	0.4	2.0		
Percent of K–12 students who were approved for free or reduced-price lunches										
0–34	1,254,600	5.0	88.4	2.8	2.0	0.2	0.3	1.2		
35–49	546,700	5.6	86.8	3.7	1.8	0.2 !	0.4	1.5		
50–74	840,100	8.0	80.7	6.9	2.0	0.3	0.5	1.5		
75 or more School did not participate in free	1,061,200	16.0	65.9	12.9	3.0	0.2	0.5	1.5		
or reduced-price lunch program	124,500	6.9	85.5	3.8	2.6	‡	0.3 !	1.0		

<sup>!</sup> Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 percent and 50 percent (i.e., the standard error is at least 30 percent and less than 50 percent of the estimate)

<sup>‡</sup> Reporting standards not met. The coefficient of variation (CV) for this estimate is 50 percent or greater (i.e., the standard error is 50 percent or more of the estimate) or the response rate is below 50 percent.

NOTE: Black includes African American and Hispanic includes Latino. Teachers include both full-time and part-time teachers. Detail may not sum to totals because of rounding and because some data are not shown.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table 2. Average and median age of public school teachers and percentage distribution of teachers by age category, sex, and selected school characteristics: 2015–16

				Age ca		Sex		
Selected school characteristic	Average age of teachers	Median age of teachers	Less than 30 years	30–49 years	50–54 years	55 years or more	Male	Female
All public schools	42.4	41.4	15.0	55.9	11.5	17.5	23.4	76.6
School classification								
Traditional public	42.7	41.7	14.3	56.0	11.8	17.9	23.4	76.6
Charter school	38.7	35.9	26.4	54.4	7.0	12.2	24.4	75.6
Community type								
City	‡	‡	‡	‡	‡	‡	‡	‡
Suburban	42.5	41.4	14.1	56.9	11.4	17.6	22.9	77.1
Town	42.6	41.7	14.7	54.9	12.5	17.9	24.1	75.9
Rural	42.4	41.6	15.1	56.2	12.3	16.4	23.9	76.1
School level								
Primary	42.1	41.0	16.0	56.0	11.4	16.6	10.5	89.5
Middle	42.2	41.2	14.4	57.8	11.3	16.5	27.5	72.5
High	43.3	42.4	13.1	54.9	12.0	19.9	41.1	58.9
Combined	41.8	40.6	17.7	54.5	10.8	17.0	29.9	70.1
Student enrollment								
Less than 100	45.7	45.2	12.0	50.8	10.2	27.0	32.4	67.6
100–199	43.5	42.9	15.3	49.5	11.4	23.8	26.3	73.7
200–499	42.3	41.3	16.0	55.1	11.9	17.1	17.8	82.2
500–749	41.8	40.7	16.1	57.0	11.3	15.6	18.0	82.0
750–999	42.5	41.4	14.1	57.1	11.8	17.0	22.5	77.5
1,000 or more	43.0	41.9	13.3	56.1	11.5	19.1	35.6	64.4
Percent of K–12 students who were approved for free or reduced-price lunches								
0–34	42.6	41.5	14.0	56.5	11.9	17.6	24.5	75.5
35–49	42.7	41.9	13.9	56.3	12.3	17.5	24.1	75.9
50–74	42.3	41.4	15.6	55.5	11.7	17.1	23.0	77.0
75 or more	42.2	41.0	16.3	55.5	10.7	17.6	21.5	78.5
School did not participate in free or reduced-price lunch program	43.1	41.7	14.1	54.7	11.5	19.7	29.9	70.1
Departing standards not met. The records	43. I		14.1	J <del>4</del> ./	11.5	13.1	23.3	70.1

<sup>‡</sup> Reporting standards not met. The response rate is below 50 percent.

NOTE: Teachers include both full-time and part-time teachers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table 3. Percentage distribution of public school teachers based on years of teaching experience, average total years of teaching experience, percentage distribution of teachers based on years teaching at current school, and average years teaching at current school, by selected school characteristics: 2015–16

		Years of teach	ning experience	Э	_	Years teaching at current school				<u> </u>
Selected school characteristic	Less than 4 years	4–9 years	10–14 years	15 or more years	Average years teaching	Less than 4 years	4–9 years	10–14 years	15 or more years	Average years at current school
All public schools	15.0	23.2	19.4	42.3	13.7	39.5	25.0	15.4	20.1	8.2
School classification										
Traditional public	14.2	22.6	19.6	43.5	14.0	38.1	25.1	15.8	21.0	8.4
Charter school	27.8	32.5	16.9	22.8	9.5	62.4	23.0	8.5	6.1	4.3
Community type										
City	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Suburban	13.2	23.2	20.4	43.2	13.9	37.1	25.5	17.2	20.1	8.3
Town	15.3	22.1	18.5	44.2	14.3	37.5	23.8	14.7	24.0	9.0
Rural	15.7	22.2	18.5	43.6	14.0	37.6	24.2	14.8	23.4	8.8
School level										
Primary	15.2	22.9	19.1	42.8	13.7	40.9	24.6	14.6	19.9	8.0
Middle	15.0	23.3	20.3	41.4	13.5	39.9	25.1	15.8	19.2	8.0
High	14.0	23.0	19.8	43.3	14.1	35.7	25.5	17.2	21.5	8.7
Combined	18.6	26.4	17.9	37.1	12.7	44.8	24.9	12.2	18.1	7.5
Student enrollment										
Less than 100	14.0	19.9	15.4	50.7	15.4	42.5	20.1	14.0	23.5	8.4
100–199	16.8	23.9	16.6	42.7	13.8	45.1	23.7	11.7	19.5	7.6
200–499	15.5	22.5	18.3	43.7	13.9	40.4	23.6	13.9	22.1	8.3
500-749	15.3	24.0	19.3	41.3	13.5	40.4	24.7	15.0	20.0	8.0
750–999	15.9	22.1	20.5	41.4	13.5	39.8	26.3	16.0	18.0	7.9
1,000 or more	13.5	23.8	20.8	41.9	13.8	36.5	26.5	17.7	19.3	8.3
Percent of K–12 students who were approved for free or reduced-price lunches										
0–34	12.5	22.4	20.0	45.1	14.3	35.7	25.4	17.7	21.1	8.6
35–49	14.0	22.5	19.9	43.7	14.1	37.1	25.5	15.3	22.1	8.7
50–74	16.1	23.2	19.0	41.7	13.5	39.8	25.2	14.8	20.2	8.1
75 or more School did not participate in free	17.5	24.2	18.8	39.4	13.0	44.4	24.0	13.3	18.3	7.4
or reduced-price lunch program	16.3	26.0	19.8	38.0	13.0	44.0	24.3	14.9	16.8	7.4

<sup>‡</sup> Reporting standards not met. The response rate is below 50 percent.

NOTE: Teachers include both full-time and part-time teachers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table 4. Percentage distribution of public school teachers, by highest degree earned, and selected school characteristics: 2015–16

Selected school characteristic	No bachelor's	Bachelor's degree	Master's degree	Higher than a master's degree <sup>1</sup>
All public schools	2.4	40.5	47.3	9.7
School classification				
Traditional public	2.4	39.9	47.9	9.8
Charter school	2.9	50.2	37.6	9.2
Community type				
City	‡	‡	‡	‡
Suburban	2.2	36.9	50.5	10.5
Town	3.3	44.9	44.4	7.4
Rural	3.0	47.1	42.8	7.1
School level				
Primary	1.7	43.1	45.8	9.4
Middle	2.1	40.4	48.1	9.4
High	3.8	35.3	50.0	10.9
Combined	3.2	44.7	44.7	7.4
Student enrollment				
Less than 100	2.3	43.7	44.3	9.7
100–199	2.3	48.9	41.5	7.3
200–499	2.5	40.7	47.5	9.3
500–749	2.2	41.9	46.5	9.5
750–999	2.6	41.3	46.6	9.5
1,000 or more	2.6	37.1	49.4	11.0
Percent of K–12 students who were approved for free or reduced-price lunches				
0–34	2.1	36.3	51.5	10.0
35–49	2.6	40.6	47.9	8.9
50–74	2.3	44.0	44.7	9.0
75 or more	2.2	43.2	44.2	10.4
School did not participate in free		0.7	. <del>.</del> -	
or reduced-price lunch program	7.6	35.1	47.8	9.5

<sup>‡</sup> Reporting standards not met. The response rate is below 50 percent.

¹ Higher than a master's degree is defined as a teacher who completed any of the following: an educational specialist or professional diploma, a certificate of advanced graduate studies, or a doctorate or first professional degree.

NOTE: Teachers include both full-time and part-time teachers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table 5. Number and percentage of public school teachers who are regular full-time teachers and average number of hours per week that regular full-time teachers spent on selected activities during a typical full week, by selected school characteristics: 2015–16

			Average hours during typical full week					
Selected school characteristic	Number of regular full-time teachers	Percent of teachers who are regular full-time teachers	Required by contract to work	Of contracted hours, total hours spent delivering instruction to students <sup>1</sup>	Total hours spent on all teaching and other school-related activities <sup>2</sup>			
All public schools	3,555,600	92.9	38.2	27.4	53.3			
School classification								
Traditional public	3,356,400	93.0	38.1	27.4	53.2			
Charter school	199,200	91.2	39.8	27.6	54.4			
Community type								
City	‡	‡	‡	‡	‡			
Suburban	1,399,300	92.5	37.9	26.9	52.9			
Town	388,300	93.3	38.9	27.9	53.6			
Rural	666,400	92.8	38.6	28.0	53.3			
School level								
Primary	1,652,100	90.8	38.1	28.0	52.9			
Middle	648,400	95.2	38.2	26.7	52.9			
High	1,045,700	95.3	38.2	26.8	54.0			
Combined	209,400	91.8	38.8	27.8	53.4			
Student enrollment								
Less than 100	51,400	86.2	38.2	27.9	50.4			
100–199	101,900	87.1	38.5	28.3	52.9			
200–499	975,100	90.7	38.0	27.8	52.8			
500–749	989,900	92.9	38.3	27.6	53.4			
750–999	519,600	94.0	38.2	27.2	53.2			
1,000 or more	917,700	95.9	38.2	26.8	53.9			
Percent of K–12 students who were approved for free or reduced-price lunches								
0–34	1,154,800	92.0	38.1	27.0	53.3			
35–49	511,300	93.5	38.2	27.2	53.3			
50–74	786,900	93.7	38.3	27.6	53.4			
75 or more	992,400	93.5	38.2	28.0	53.1			
School did not participate in free or reduced-price lunch program	110,100	88.4	38.4	26.2	52.4			
or reduced-price functi program	110,100	00.4	38.4	20.2	52.4			

NOTE: A regular full-time teacher is any teacher whose primary position in a school is not an itinerant teacher, a long-term substitute, a short-term substitute, a student teacher, a teacher aide, an administrator, a library media specialist or librarian, another type of professional staff (e.g., counselor, curriculum coordinator, social worker) or support staff (e.g., secretary), or part-time teacher. Detail may not sum to totals because of rounding and because some data are not shown.

<sup>‡</sup> Reporting standards not met. The response rate is below 50 percent.

¹ Excludes time spent planning and monitoring students outside of class.

<sup>&</sup>lt;sup>2</sup> Includes hours spent during the school day, before and after school, and on weekends.

Table 6. Among regular full-time public school teachers, average base salary and earnings from all sources, percentage of teachers with earnings from various salary supplements, and among those teachers, the average amount earned from the supplement during the current school year, by selected school characteristics: 2015–16

			Salary supplements								
	Average base Average teaching school salary of year		additional a	Extracurricular or additional activities in same school system		Additional compensation based on students' performance		Other school system sources (state supplement, etc.)		Job outside the school system	
Selected school characteristic	regular full-time teachers	earnings from all sources <sup>1</sup>	Percent of teachers	Average amount	Percent of teachers	Average amount	Percent of teachers	Average amount	Percent of teachers	Average amount	
All public schools	\$55,100	\$57,500	44.5	\$2,600	6.2	\$1,500	8.3	\$2,700	17.9	\$5,100	
School classification											
Traditional public	55,600	58,000	44.7	2,700	5.6	1,400	8.4	2,700	17.9	5,200	
Charter school	47,000	49,200	40.1	2,100	15.5	1,900	6.9	2,400	17.8	5,000	
Community type											
City	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Suburban	59,800	62,100	45.7	2,600	5.5	1,300	7.8	2,800	17.8	4,900	
Town	48,000	50,500	45.5	2,800	6.2	1,300	8.5	2,400	18.5	5,000	
Rural	47,800	50,200	44.6	2,700	5.3	1,000	9.5	2,400	18.7	5,100	
School level											
Primary	54,300	55,700	34.6	1,600	6.5	1,400	7.8	2,300	14.2	4,600	
Middle	56,000	58,600	52.5	2,600	5.7	1,100	9.0	2,700	18.3	5,000	
High	57,400	61,100	54.6	3,600	5.5	1,700	9.0	3,000	22.9	5,700	
Combined	47,600	50,400	46.9	2,700	8.6	2,000	6.9	3,500	20.7	5,500	
Student enrollment											
Less than 100	57,100	59,800	39.7	3,500	3.7	1,100	5.4	6,200 !	21.5	4,200	
100–199	48,100	50,500	43.9	2,600	4.2	1,400	7.7	4,000	18.7	5,000	
200–499	53,500	55,500	42.6	2,300	4.5	1,300	7.2	2,500	16.0	5,100	
500–749	54,300	56,300	41.0	2,100	6.7	1,400	8.5	2,200	16.8	5,000	
750–999	55,800	58,100	43.9	2,500	7.4	1,300	8.6	2,700	17.4	4,900	
1,000 or more	58,000	61,300	50.8	3,400	7.1	1,800	9.3	3,100	20.9	5,500	
Percent of K–12 students who were approved for free or reduced-price lunches											
0–34	58,200	60,700	47.1	2,800	5.6	1,300	7.5	2,800	19.3	5,000	
35–49	54,300	56,800	46.1	2,800	5.9	1,300	8.0	2,800	18.7	4,700	
50–74	52,600	54,900	43.8	2,500	6.5	1,400	9.4	2,500	18.0	5,200	
75 or more School did not participate in free	54,100	56,200	41.6	2,400	6.7	1,700	8.8	2,500	15.6	5,500	
or reduced-price lunch program	54,200	56,900	39.9	2,900	6.9	2,300	6.2	4,200	19.3	6,500	

<sup>!</sup> Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 percent and 50 percent (i.e., the standard error is at least 30 percent and less than 50 percent of the estimate).

<sup>‡</sup> Reporting standards not met. The response rate is below 50 percent.

Average earnings from all sources is defined as the weighted mean of the amount that regular full-time teachers earned from all sources during the school year. It does not include summer income or income from a retirement pension.

NOTE: For average base salary, teachers who reported zero are excluded from the table. Summer earnings are not included. A regular full-time teacher is any teacher whose primary position in a school is not an itinerant teacher, a long-term substitute, a short-term substitute, a student teacher, a teacher aide, an administrator, a library media or librarian, another type of professional staff (e.g., counselor, curriculum coordinator, social worker) or support staff (e.g., secretary), or a part-time teacher.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table 7. Average class size in public primary schools, middle schools, and schools with combined grades, by classroom type and selected school characteristics: 2015–16

	Primary schools		Mido	lle schools	Hi	gh schools	Combined grade schools	
Selected school characteristic	Average class size for teachers in self-contained classes	Average class size for teachers in departmentalized instruction	Average class size for teachers in self- contained classes	Average class size for teachers in departmentalized instruction	Average class size for teachers in self-contained classes	Average class size for teachers in departmentalized instruction	Average class size for teachers in self-contained classes	Average class size for teachers in departmentalized instruction
All public schools	21.2	26.5	14.3	26.8	15.0	26.0	15.7	21.8
School classification								
Traditional public	21.2	26.7	14.2	26.8	14.7	26.0	14.1	19.4
Charter school	21.9	24.6	17.0 !	26.2	21.7	25.1	21.7	28.3
Community type								
City	‡	‡	‡	‡	‡	‡	‡	‡
Suburban	21.7	27.3	14.0	27.2	14.8	26.6	15.9	25.4
Town	20.7	23.6	13.8	25.8	14.7	24.0	14.4	19.1
Rural	19.5	25.0	13.0	24.8	14.1	23.0	15.9	18.1
Student enrollment								
Less than 100	13.3	16.5	9.5	13.6	18.5	21.8	8.2	10.7
100–199	18.6	19.0	16.1	20.9	14.6	18.1	11.4	14.2
200–499	20.4	25.3	14.6	25.1	14.4	22.4	15.9	18.2
500-749	21.8	27.5	15.4	26.3	13.8	22.6	18.0	23.8
750–999	22.5	28.2	13.1	26.9	17.4	24.1	20.3	26.9
1,000 or more	23.6	29.3	13.5	29.6	14.7	27.9	23.6	31.1
Percent of K–12 students who were approved for free or reduced-price lunches								
0–34	21.7	26.8	14.4	27.5	12.7	26.8	17.2	21.2
35–49	21.1	27.9	12.3	26.4	14.9	25.1	15.8	19.5
50–74	21.2	27.1	12.5	26.4	16.7	26.3	15.4	21.7
75 or more School did not participate in free or reduced-price	21.0	25.7	16.5	26.5	14.8	25.8	13.4	19.0
lunch program	20.8	23.7	20.8 !	25.2	18.4	21.2	20.6	30.6

<sup>!</sup> Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 percent and 50 percent (i.e., the standard error is at least 30 percent and less than 50 percent of the estimate).

<sup>‡</sup> Reporting standards not met. The response rate is below 50 percent.

NOTE: Self-contained classes are defined as instruction to the same group of students all or most of the day in multiple subjects, and departmentalized instruction is defined as instruction to several classes of different students most or all of the day in one or more subjects. Among all public school teachers, 26 percent teach self-contained classes in primary schools, 1 percent in middle schools, 25 percent in combined schools; 7 percent teach departmentalized classes in primary schools, 14 percent in middle schools, 25 percent in high schools, and 4 percent in combined schools; 15 percent teach other types of classes, such as elementary subject specialist classes, team-taught classes, and "pull-out" or "push-in" classes in primary schools, 3 percent in middle schools, 3 percent in high schools, and 1 percent in combined schools. Detail may not sum to totals because of rounding.

Table 8. Percentage of public school teachers who took graduate or undergraduate courses before their first year of teaching in selected subject areas, by selected school characteristics: 2015–16

Selected school characteristic	Classroom management techniques	Lesson planning	Learning assessment	Using student performance data to inform instruction	Serving students from diverse economic backgrounds	Serving students with special needs	Teaching students who are limited-English proficient (LEP) or English- language learners (ELLs)
All public schools	73.9	78.9	75.9	53.1	64.1	69.7	37.6
School classification							
Traditional public	74.2	79.3	76.1	53.1	64.2	69.9	37.2
Charter school	68.9	72.3	71.8	53.7	63.8	65.8	43.4
Community type							
City	‡	‡	‡	‡	‡	‡	‡
Suburban	74.0	79.7	76.3	52.9	64.4	69.7	38.2
Town	76.8	81.1	77.8	53.7	63.3	72.5	33.6
Rural	75.6	79.2	77.0	53.9	63.7	71.6	32.1
School level							
Primary	74.8	79.8	77.2	53.6	66.2	72.1	40.3
Middle	73.0	79.0	75.3	51.8	62.6	70.4	34.5
High	73.0	77.7	74.1	52.5	61.8	65.2	35.4
Combined	74.1	77.4	75.5	55.4	63.3	70.1	35.4
Student enrollment							
Less than 100	78.8	81.3	80.4	59.2	68.5	71.7	38.6
100–199	73.3	76.1	75.2	51.5	62.1	69.2	35.0
200–499	73.9	80.1	77.1	53.4	63.2	71.6	34.1
500–749	75.2	79.4	76.1	53.2	65.2	71.4	39.6
750–999	72.1	77.1	74.5	52.6	64.3	68.4	38.6
1,000 or more	73.3	78.3	74.8	52.7	63.9	66.2	38.9
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	75.5	81.5	77.7	53.4	64.1	71.4	34.5
35–49	75.7	80.0	77.1	53.5	64.2	70.9	36.1
50–74	73.9	78.8	75.5	53.2	64.6	69.7	38.5
75 or more	71.4	76.1	73.6	52.4	64.0	67.6	41.4
School did not participate in free or reduced-price lunch program	71.4	73.7	74.3	53.4	62.4	65.0	35.5

‡ Reporting standards not met. The response rate is below 50 percent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table 9. Percentage of public school teachers who thought that they have any influence over various policies at their school, by selected school characteristics: 2015–16

Selected school characteristic	Setting performance standards for students at their school	Establishing curriculum	Determining the content of in-service professional development programs	Evaluating teachers	Hiring new full- time teachers	Setting discipline policy	Deciding how the school budget will be spent
All public schools	81.3	84.0	81.5	49.5	60.4	74.0	53.2
School classification							
Traditional public	81.2	83.8	81.5	48.8	60.2	73.9	53.3
Charter school	83.6	86.8	82.4	60.5	64.0	77.1	51.6
Community type							
City	‡	‡	‡	‡	‡	‡	‡
Suburban	80.9	83.4	81.7	47.0	59.5	72.7	52.4
Town	83.3	87.3	81.5	53.9	62.8	76.0	51.7
Rural	83.3	87.2	82.8	53.8	61.9	77.0	53.5
School level							
Primary	79.1	79.9	81.4	47.0	62.3	77.3	54.9
Middle	81.6	84.8	81.7	50.0	59.8	73.8	53.5
High	83.9	89.2	81.3	51.9	58.0	68.4	51.0
Combined	85.8	89.4	82.6	55.9	59.9	76.1	49.4
Student enrollment							
Less than 100	88.4	91.7	87.2	54.0	61.6	83.6	62.0
100–199	86.7	88.4	83.8	53.7	61.1	80.4	53.4
200–499	82.0	84.0	81.9	49.4	63.2	77.9	53.6
500–749	79.7	81.6	81.9	49.0	62.3	76.0	55.3
750–999	80.3	82.3	79.7	48.0	57.9	72.1	52.6
1,000 or more	81.8	86.6	81.1	50.1	56.7	67.3	50.2
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	82.7	86.6	83.3	50.5	64.7	74.2	54.7
35–49	82.8	85.7	81.9	50.1	60.7	74.3	52.8
50–74	80.1	83.0	80.8	48.9	58.0	73.3	51.6
75 or more School did not participate in free	79.2	80.1	79.3	47.5	56.7	74.1	52.5
or reduced-price lunch program	86.4	89.8	85.4	56.3	65.2	76.3	57.2

<sup>‡</sup> Reporting standards not met. The response rate is below 50 percent.

NOTE: Response options included "no influence," "minor influence," "moderate influence," and "a great deal of influence." Teachers who reported "minor influence," "moderate influence," or "a great deal of influence" were considered to have reported having "any influence." SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table 10. Percentage of public school teachers who responded that they have any control over various areas of planning and teaching in their classrooms, by selected school characteristics: 2015-16

Selected school characteristic	Selecting textbooks and other instructional materials	Selecting content, topics, and skills to be taught	Selecting teaching techniques	Evaluating and grading students	Disciplining students	Determining the amount of homework to be assigned
All public schools	83.7	84.6	97.8	98.3	97.2	97.8
School classification						
Traditional public	83.8	84.5	97.9	98.3	97.2	98.0
Charter school	83.2	87.1	97.2	98.0	96.7	95.7
Community type						
City	‡	‡	‡	‡	‡	‡
Suburban	82.9	83.3	98.1	98.3	97.7	97.8
Town	88.3	88.1	98.3	98.5	97.2	98.2
Rural	89.3	87.7	98.5	98.7	97.5	98.3
School level						
Primary	81.4	80.0	97.3	97.7	97.9	97.4
Middle	84.0	84.8	98.1	98.8	97.4	98.1
High	86.4	91.0	98.6	99.0	96.2	98.8
Combined	88.8	90.0	97.9	98.4	96.0	96.0
Student enrollment						
Less than 100	88.9	92.3	97.9	98.9	97.2	95.3
100–199	88.5	90.7	97.9	98.3	97.1	97.2
200-499	84.9	85.1	97.9	98.3	97.7	97.7
500–749	83.0	82.0	97.6	98.2	97.7	97.4
750–999	82.4	82.3	97.5	98.0	97.2	98.0
1,000 or more	83.1	87.2	98.3	98.6	96.1	98.6
Percent of K–12 students who were approved for free or reduced- price lunches						
0–34	86.1	86.0	98.3	98.6	97.8	98.1
35–49	86.0	86.6	98.5	98.7	97.7	98.3
50–74	82.7	83.5	97.9	98.3	96.7	98.0
75 or more	80.3	82.2	96.9	97.8	96.8	97.5
School did not participate in free						
or reduced-price lunch program	86.6	89.0	98.1	98.5	95.9	95.5

‡ Reporting standards not met. The response rate is below 50 percent.

NOTE: Response options included "no control," "minor control," "moderate control," and "a great deal of control." Teachers who reported "minor control," "moderate control," or "a great deal of control" were considered to have reported having "any control."

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

# **Appendix A: Standard Error Tables**

Table A-1. Standard errors for table 1: Total number of public school teachers and percentage distribution of public school teachers, by race/ethnicity and selected school characteristics:

				Percen	t of teachers by race/	ethnicity		
Selected school characteristic	Total number of teachers	Hispanic, regardless of race	White, non- Hispanic	Black, non- Hispanic	Asian, non- Hispanic	Native Hawaiian/ Pacific Islander, non- Hispanic	American Indian/Alaska Native, non- Hispanic	Two or more races, non-Hispanic
All public schools	49,470	0.22	0.34	0.21	0.09	0.03	0.04	0.07
School classification								
Traditional public	46,930	0.23	0.35	0.22	0.10	0.03	0.04	0.07
Charter school	9,870	1.13	1.35	0.79	0.33	0.10	0.09	0.34
Community type								
City	†	†	†	†	†	†	†	†
Suburban	41,610	0.38	0.49	0.27	0.16	0.05	0.05	0.11
Town	13,620	0.42	0.59	0.31	0.14	0.07	0.15	0.15
Rural	21,370	0.41	0.55	0.33	0.10	0.04	0.13	0.11
School level								
Primary	43,440	0.41	0.60	0.36	0.15	0.04	0.05	0.10
Middle	28,930	0.60	0.89	0.58	0.22	0.06	0.11	0.17
High	40,780	0.43	0.65	0.39	0.21	0.06	0.08	0.15
Combined	10,330	0.62	1.07	0.75	0.24	0.11	0.18	0.24
Student enrollment								
Less than 100	10,040	1.82	1.70	1.52	†	†	†	0.74
100–199	7,360	1.18	1.54	1.06	0.45	0.18	0.38	0.32
200–499	22,090	0.38	0.62	0.41	0.18	0.05	0.09	0.11
500–749	29,670	0.55	0.78	0.46	0.21	0.05	0.06	0.15
750–999	22,790	0.76	1.11	0.57	0.32	0.06	0.11	0.16
1,000 or more	36,100	0.56	0.75	0.41	0.24	0.08	0.08	0.17
Percent of K–12 students who were approved for free or reduced-price lunches								
0–34	34,280	0.30	0.47	0.22	0.18	0.05	0.06	0.12
35–49	23,800	0.55	0.81	0.38	0.27	0.09	0.12	0.20
50–74	26,450	0.53	0.75	0.49	0.23	0.07	0.11	0.16
75 or more	29,450	0.63	0.84	0.59	0.22	0.05	0.08	0.14
School did not participate in free or reduced-price lunch program	8,740	0.99	1.24	0.80	0.61	+	0.13	0.28
t Not applicable	-,						21.10	

<sup>†</sup> Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

Table A-2. Standard errors for table 2: Average and median age of public school teachers and percentage distribution of teachers by age category, sex, and selected school characteristics: 2015–16

				Age ca	ategory		Sex	Sex		
Selected school characteristic	Average age of teachers	Median age of teachers	Less than 30 years	30–49 years	50–54 years	55 years or more	Male	Female		
All public schools	0.07	0.12	0.23	0.32	0.18	0.25	0.34	0.34		
School classification										
Traditional public	80.0	0.12	0.24	0.33	0.18	0.26	0.35	0.35		
Charter school	0.24	0.30	1.02	1.04	0.50	0.63	0.95	0.95		
Community type										
City	†	†	†	†	†	†	†	†		
Suburban	0.13	0.21	0.40	0.52	0.30	0.40	0.57	0.57		
Town	0.16	0.29	0.53	0.75	0.47	0.56	0.96	0.96		
Rural	0.15	0.22	0.49	0.62	0.42	0.49	0.66	0.66		
School level										
Primary	0.12	0.19	0.39	0.50	0.30	0.39	0.26	0.26		
Middle	0.17	0.27	0.49	0.67	0.38	0.52	0.60	0.60		
High	0.14	0.20	0.41	0.56	0.33	0.46	0.58	0.58		
Combined	0.27	0.36	0.85	0.92	0.59	0.71	0.85	0.85		
Student enrollment										
Less than 100	0.51	0.56	1.28	2.13	1.04	1.89	2.29	2.29		
100–199	0.39	0.62	1.24	1.59	0.95	1.37	1.62	1.62		
200-499	0.13	0.18	0.45	0.53	0.36	0.45	0.48	0.48		
500-749	0.15	0.24	0.48	0.67	0.38	0.49	0.50	0.50		
750–999	0.22	0.36	0.71	0.90	0.55	0.65	0.79	0.79		
1,000 or more	0.17	0.28	0.48	0.66	0.41	0.56	0.63	0.63		
Percent of K–12 students who were approved for free or reduced-price lunches										
0–34	0.12	0.21	0.36	0.58	0.35	0.41	0.58	0.58		
35–49	0.18	0.30	0.58	0.79	0.51	0.61	0.84	0.84		
50–74	0.18	0.24	0.54	0.67	0.40	0.56	0.72	0.72		
75 or more	0.16	0.27	0.51	0.64	0.37	0.51	0.57	0.57		
School did not participate in free	2.44			4.05		4.40	4.00			
or reduced-price lunch program	0.41	0.81	1.10	1.30	0.93	1.19	1.89	1.89		

Table A-3. Standard errors for table 3: Percentage distribution of public school teachers based on years of teaching experience, average total years of teaching experience, percentage distribution of teachers based on years teaching at current school, and average years teaching at current school, by selected school characteristics: 2015–16

	•	Years of teac	hing experience	,		•	Years teaching	at current scho	ol	
Selected school characteristic	Less than 4 years	4–9 years	10–14 years	15 or more years	— Average years teaching	Less than 4 years	4–9 years	10–14 years	15 or more years	Average years at current school
All public schools	0.23	0.28	0.22	0.33	0.07	0.36	0.29	0.24	0.29	0.06
School classification										
Traditional public	0.23	0.29	0.23	0.35	0.07	0.37	0.30	0.26	0.31	0.07
Charter school	1.04	1.03	0.70	1.07	0.21	1.34	0.96	0.63	0.67	0.18
Community type										
City	†	†	†	†	†	†	†	†	†	†
Suburban	0.37	0.47	0.40	0.57	0.11	0.59	0.46	0.39	0.48	0.10
Town	0.56	0.58	0.57	0.72	0.14	0.79	0.64	0.59	0.69	0.14
Rural	0.47	0.48	0.48	0.62	0.11	0.67	0.56	0.48	0.56	0.11
School level										
Primary	0.38	0.41	0.33	0.52	0.10	0.59	0.45	0.37	0.42	0.09
Middle	0.57	0.60	0.53	0.78	0.16	0.80	0.61	0.57	0.65	0.14
High	0.37	0.48	0.46	0.62	0.12	0.63	0.53	0.48	0.58	0.12
Combined	0.84	0.91	0.73	1.09	0.21	1.12	0.86	0.61	0.92	0.19
Student enrollment										
Less than 100	1.41	3.04	1.41	4.31	0.64	4.74	3.10	2.66	4.89	0.95
100–199	1.11	1.19	1.15	1.57	0.31	1.78	1.29	1.02	1.45	0.30
200–499	0.43	0.47	0.48	0.59	0.11	0.71	0.51	0.45	0.53	0.12
500–749	0.48	0.52	0.43	0.61	0.13	0.68	0.53	0.43	0.49	0.10
750–999	0.69	0.70	0.62	0.96	0.18	1.04	0.75	0.74	0.78	0.17
1,000 or more	0.43	0.55	0.49	0.63	0.13	0.73	0.59	0.51	0.58	0.12
Percent of K–12 students who were approved for free or reduced-price lunches										
0–34	0.35	0.48	0.38	0.58	0.11	0.59	0.54	0.47	0.50	0.10
35–49	0.66	0.67	0.60	0.80	0.17	0.85	0.72	0.55	0.70	0.15
50–74	0.53	0.62	0.49	0.71	0.15	0.68	0.63	0.54	0.59	0.13
75 or more	0.53	0.56	0.38	0.71	0.13	0.75	0.55	0.46	0.60	0.12
School did not participate in free										
or reduced-price lunch program	1.12	1.33	1.33	1.62	0.34	1.73	1.44	1.22	1.42	0.30

Table A-4. Standard errors for table 4: Percentage distribution of public school teachers, by highest degree earned, and selected school characteristics: 2015–16

Selected school characteristic	No bachelor's	Bachelor's degree	Master's degree	Higher than a master's
All public schools	0.10	0.34	0.34	degree 0.20
·	0.10	0.54	0.04	0.20
School classification				
Traditional public	0.10	0.36	0.36	0.21
Charter school	0.31	1.20	1.11	0.62
Community type				
City	†	†	†	†
Suburban	0.16	0.66	0.66	0.35
Town	0.27	0.83	0.83	0.41
Rural	0.22	0.76	0.73	0.31
School level				
Primary	0.12	0.58	0.55	0.31
Middle	0.19	0.92	0.87	0.42
High	0.22	0.66	0.69	0.40
Combined	0.29	1.15	1.08	0.49
Student enrollment				
Less than 100	0.67	2.84	2.93	1.15
100–199	0.43	1.72	1.73	0.79
200–499	0.18	0.69	0.68	0.37
500–749	0.18	0.74	0.75	0.40
750–999	0.26	1.12	0.98	0.57
1,000 or more	0.21	0.85	0.79	0.44
Percent of K–12 students who were approved for free or reduced-price lunches				
0–34	0.16	0.64	0.64	0.34
35–49	0.26	1.03	1.06	0.61
50–74	0.19	0.83	0.80	0.43
75 or more	0.17	0.70	0.75	0.37
School did not participate in free	1.00	4.00	0.45	0.00
or reduced-price lunch program	1.03	1.83	2.15	0.96

Table A-5. Standard errors for table 5: Number and percentage of public school teachers who are regular full-time teachers and average number of hours per week that regular full-time teachers spent on selected activities during a typical full week, by selected school characteristics: 2015–16

			Av	verage hours during typical full week	
Selected school characteristic	Number of regular full-time teachers	Percent of teachers who are regular full-time teachers	Required by contract to work	Of contracted hours, total hours spent delivering instruction to students	Total hours spent on all teaching and other school-related activities
All public schools	46,350	0.18	0.03	0.05	0.08
School classification					
Traditional public	44,200	0.18	0.03	0.06	0.08
Charter school	9,130	0.59	0.13	0.20	0.24
Community type					
City	†	†	†	†	†
Suburban	38,600	0.30	0.05	0.09	0.14
Town	12,870	0.41	0.06	0.14	0.16
Rural	20,070	0.32	0.06	0.11	0.14
School level					
Primary	39,020	0.30	0.05	0.07	0.11
Middle	27,300	0.30	0.07	0.13	0.16
High	38,830	0.25	0.06	0.11	0.15
Combined	9,630	0.51	0.10	0.20	0.23
Student enrollment					
Less than 100	9,820	2.50	0.17	0.54	0.61
100–199	6,640	1.15	0.15	0.28	0.37
200–499	20,060	0.34	0.06	0.10	0.14
500–749	27,250	0.36	0.06	0.10	0.13
750–999	21,540	0.42	0.08	0.15	0.18
1,000 or more	34,340	0.26	0.07	0.12	0.16
Percent of K–12 students who were approved for free or reduced-price lunches					
0–34	31,690	0.33	0.05	0.09	0.13
35–49	22,550	0.39	0.08	0.14	0.19
50–74	24,990	0.34	0.07	0.11	0.14
75 or more	28,080	0.31	0.06	0.11	0.15
School did not participate in free or reduced-price lunch program	7,980	1.40	0.16	0.33	0.38

Table A-6. Standard errors for table 6: Among regular full-time public school teachers, average base salary and earnings from all sources, percentage of teachers with earnings from various salary supplements, and among those teachers, the average amount earned from the supplement during the current school year, by selected school characteristics: 2015-16

				Salary supplements								
	Average base Average teaching school salary of year		additional a	Extracurricular or additional activities in same school system		tional tion based dents' mance	supplem	s (state	Job outside the school system			
Selected school characteristic	regular full-time teachers	earnings from all sources	Percent of teachers	Average amount	Percent of teachers	Average amount	Percent of teachers	Average amount	Percent of teachers	Average amount		
All public schools	180	200	0.36	40	0.23	70	0.20	90	0.27	110		
School classification												
Traditional public	200	210	0.38	40	0.23	70	0.21	90	0.28	120		
Charter school	520	550	1.18	110	1.13	290	0.49	460	0.78	280		
Community type												
City	†	†	†	†	†	†	†	†	†	†		
Suburban	330	350	0.60	70	0.38	70	0.36	160	0.43	170		
Town	290	310	1.03	100	0.63	170	0.50	190	0.63	220		
Rural	270	280	0.86	70	0.41	70	0.48	180	0.48	180		
School level												
Primary	270	270	0.47	40	0.32	80	0.29	110	0.35	170		
Middle	470	470	0.78	70	0.49	80	0.53	220	0.56	210		
High	490	490	0.63	70	0.54	150	0.43	180	0.49	190		
Combined	550	580	1.08	90	0.98	470	0.56	580	0.79	270		
Student enrollment												
Less than 100	5,120	5,300	4.69	530	0.99	190	1.35	2,690	2.49	430		
100–199	1,070	1,060	1.83	180	0.86	170	0.92	990	1.20	440		
200–499	350	360	0.71	50	0.34	130	0.36	170	0.42	240		
500–749	350	360	0.67	70	0.46	150	0.38	120	0.45	190		
750–999	530	550	1.02	90	0.75	100	0.56	290	0.64	240		
1,000 or more	470	480	0.70	80	0.68	150	0.46	190	0.56	210		
Percent of K–12 students who were approved for free or reduced-price lunches												
0–34	350	360	0.73	60	0.37	70	0.37	190	0.46	180		
35–49	590	600	0.97	110	0.64	220	0.65	230	0.71	230		
50–74	460	470	0.79	80	0.81	160	0.45	200	0.61	220		
75 or more School did not participate in free	460	480	0.63	80	0.42	160	0.39	160	0.44	240		
or reduced-price lunch program	1,350	1,390	1.96	260	1.04	610	1.00	1,090	1.26	740		

Table A-7. Standard errors for table 7: Average class size in public primary schools, middle schools, high schools, and schools with combined grades, by classroom type and selected school characteristics: 2015–16

	Prim	nary schools	Mid	dle schools	Hig	gh schools	Combine	ed grade schools
Selected school characteristic	Average class size for teachers in self-contained classes	Average class size for teachers in departmentalized instruction	Average class size for teachers in self-contained classes	Average class size for teachers in departmentalized instruction	Average class size for teachers in self-contained classes	Average class size for teachers in departmentalized instruction	Average class size for teachers in self-contained classes	Average class size for teachers in departmentalized instruction
All public schools	0.08	0.36	0.66	0.27	0.52	0.22	0.44	0.77
School classification								
Traditional public	0.09	0.39	0.67	0.28	0.51	0.23	0.48	0.46
Charter school	0.33	0.88	5.64	0.94	3.45	1.16	0.72	2.27
Community type								
City	†	†	+	†	+	†	+	+
Suburban	0.15	0.74	1.08	0.39	0.97	0.38	1.31	1.97
Town	0.18	0.87	1.59	0.59	1.19	0.49	1.24	1.25
Rural	0.21	0.72	0.96	0.57	1.18	0.44	0.34	0.46
Student enrollment								
Less than 100	0.92	1.78	0.89	1.53	2.20	2.73	0.45	1.16
100–199	0.40	1.10	4.17	1.42	2.06	0.95	0.84	1.15
200-499	0.13	0.58	1.51	0.51	1.04	0.58	0.57	0.47
500-749	0.14	0.69	1.24	0.46	1.59	0.51	0.88	0.67
750–999	0.27	1.05	1.10	0.57	2.13	0.56	0.76	3.01
1,000 or more	0.60	1.90	1.67	0.65	0.73	0.27	1.58	2.66
Percent of K–12 students who were approved for free or reduced-price lunches								
0–34	0.17	0.89	1.29	0.43	1.01	0.34	0.84	0.84
35–49	0.28	1.07	1.10	0.65	1.54	0.49	0.94	0.86
50–74	0.20	0.88	1.05	0.47	1.10	0.52	0.63	0.95
75 or more School did not participate in free or reduced-price	0.14	0.54	1.56	0.63	0.99	0.57	0.79	0.78
lunch program	0.61	2.03	9.03	1.25	3.08	1.10	2.21	4.22

Table A-8. Standard errors for table 8: Percentage of public school teachers who took graduate or undergraduate courses before their first year of teaching in selected subject areas, by selected school characteristics: 2015–16

Selected school characteristic	Classroom management techniques	Lesson planning	Learning assessment	Using student performance data to inform instruction	Serving students from diverse economic backgrounds	Serving students with special needs	Teaching students who are limited- English proficient (LEP) or English- language learners (ELLs)
All public schools	0.28	0.25	0.28	0.29	0.31	0.27	0.29
School classification							
Traditional public	0.29	0.27	0.29	0.30	0.33	0.28	0.31
Charter school	1.03	0.96	0.98	1.04	1.00	1.10	0.99
Community type							
City	†	†	†	†	†	†	†
Suburban	0.50	0.43	0.46	0.53	0.53	0.45	0.51
Town	0.66	0.62	0.65	0.76	0.69	0.73	0.71
Rural	0.53	0.51	0.48	0.63	0.61	0.57	0.60
School level							
Primary	0.38	0.35	0.40	0.48	0.47	0.42	0.50
Middle	0.69	0.60	0.69	0.67	0.75	0.70	0.72
High	0.57	0.55	0.55	0.59	0.63	0.56	0.65
Combined	0.86	0.86	0.95	0.96	0.89	0.92	0.98
Student enrollment							
Less than 100	2.12	1.95	1.66	2.52	2.29	1.80	2.57
100–199	1.45	1.48	1.45	1.55	1.53	1.42	1.59
200–499	0.54	0.43	0.51	0.54	0.59	0.57	0.56
500–749	0.57	0.52	0.59	0.63	0.60	0.58	0.69
750–999	0.86	0.72	0.75	0.80	0.84	0.78	1.02
1,000 or more	0.58	0.58	0.60	0.64	0.66	0.63	0.72
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	0.46	0.42	0.45	0.53	0.54	0.50	0.58
35–49	0.77	0.67	0.77	0.80	0.86	0.89	0.88
50–74	0.60	0.59	0.60	0.64	0.67	0.71	0.77
75 or more School did not participate in free	0.56	0.51	0.53	0.59	0.62	0.54	0.66
or reduced-price lunch program	1.45	1.53	1.58	1.65	1.83	1.59	1.85

Table A-9. Standard errors for table 9: Percentage of public school teachers who thought that they have any influence over various policies at their school, by selected school characteristics: 2015–16

Selected school characteristic	Setting performance standards for students at their school	Establishing curriculum	Determining the content of in-service professional development programs	Evaluating teachers	Hiring new full- time teachers	Setting discipline policy	Deciding how the school budget will be spent
All public schools	0.26	0.25	0.26	0.33	0.38	0.34	0.34
School classification							
Traditional public	0.28	0.26	0.27	0.35	0.40	0.35	0.35
Charter school	0.71	0.69	0.81	1.00	1.11	0.99	1.16
Community type							
City	†	†	†	†	†	†	†
Suburban	0.46	0.44	0.43	0.55	0.67	0.52	0.59
Town	0.61	0.61	0.69	0.83	1.06	0.75	0.93
Rural	0.54	0.49	0.47	0.67	0.74	0.59	0.68
School level							
Primary	0.41	0.45	0.43	0.52	0.62	0.51	0.56
Middle	0.62	0.59	0.56	0.79	0.84	0.70	0.83
High	0.43	0.40	0.52	0.67	0.69	0.64	0.73
Combined	0.68	0.76	0.79	1.08	1.25	0.95	1.15
Student enrollment							
Less than 100	1.34	1.78	2.12	2.52	2.16	1.71	3.32
100–199	1.22	1.15	1.10	1.75	1.99	1.55	2.06
200-499	0.44	0.47	0.51	0.56	0.72	0.50	0.64
500-749	0.53	0.57	0.53	0.64	0.79	0.57	0.76
750–999	0.73	0.80	0.76	0.88	1.17	0.88	1.05
1,000 or more	0.51	0.50	0.56	0.71	0.84	0.67	0.85
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	0.45	0.43	0.44	0.63	0.68	0.56	0.69
35–49	0.67	0.66	0.65	0.85	0.97	0.80	0.91
50–74	0.51	0.56	0.54	0.71	0.86	0.66	0.81
75 or more	0.52	0.61	0.56	0.62	0.73	0.62	0.70
School did not participate in free or reduced-price lunch program	1.09	1.12	1.06	1.73	1.98	1.34	1.71

Table A-10. Standard errors for table 10: Percentage of public school teachers who responded that they have any control over various areas of planning and teaching in their classrooms, by selected school characteristics: 2015–16

Selected school characteristic	Selecting textbooks and other instructional materials	Selecting content, topics, and skills to be taught	Selecting teaching techniques	Evaluating and grading students	Disciplining students	Determining the amount of homework to be assigned
All public schools	0.26	0.25	0.09	0.08	0.10	0.09
School classification						
Traditional public	0.27	0.26	0.10	0.08	0.11	0.09
Charter school	0.87	0.87	0.37	0.35	0.38	0.49
Community type						
City	†	†	†	†	†	†
Suburban	0.44	0.48	0.16	0.13	0.16	0.15
Town	0.60	0.58	0.20	0.18	0.25	0.21
Rural	0.40	0.52	0.14	0.15	0.19	0.17
School level						
Primary	0.45	0.40	0.17	0.13	0.15	0.16
Middle	0.54	0.49	0.18	0.15	0.22	0.18
High	0.41	0.34	0.13	0.11	0.21	0.12
Combined	0.74	0.71	0.30	0.24	0.42	0.48
Student enrollment						
Less than 100	1.71	1.13	0.58	0.43	0.77	1.05
100–199	1.17	0.92	0.44	0.40	0.53	0.60
200–499	0.46	0.40	0.19	0.13	0.17	0.18
500–749	0.56	0.52	0.20	0.15	0.19	0.21
750–999	0.79	0.80	0.28	0.24	0.26	0.25
1,000 or more	0.52	0.48	0.17	0.16	0.25	0.16
Percent of K–12 students who were approved for free or reduced-price lunches						
0–34	0.45	0.47	0.15	0.13	0.16	0.16
35–49	0.68	0.60	0.19	0.19	0.24	0.20
50–74	0.55	0.53	0.17	0.16	0.24	0.21
75 or more	0.54	0.53	0.23	0.17	0.21	0.21
School did not participate in free	,			0.05		
or reduced-price lunch program	1.39	1.11	0.38	0.35	0.60	0.72

<sup>†</sup> Not applicable.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

# **Appendix B: Methodology and Technical Notes**

## **Overview of the NTPS Teacher Survey**

The National Teacher and Principal Survey (NTPS) is sponsored by the National Center for Education Statistics (NCES) of the Institute of Education Sciences within the U.S. Department of Education and is conducted by the U.S. Census Bureau. NTPS is a nationally representative sample survey of public K–12 schools, principals, and teachers in the 50 states and the District of Columbia. This is the first year of NTPS.

The 2015–16 NTPS consisted of questionnaires for three types of respondents: public schools, public school principals, and public school teachers. The information can be linked across teachers, principals, and schools. There is a separate data file for each type of respondent (school, principal, and teacher). For the content of the questionnaires, see <a href="https://nces.ed.gov/surveys/ntps/question1516.asp">https://nces.ed.gov/surveys/ntps/question1516.asp</a>.

NTPS was designed to produce national estimates for public elementary and secondary schools, principals, and teachers, including national estimates for public charter schools and the principals and teachers within them. Additionally, the teacher survey was designed to produce national estimates of teachers by subject matter taught and by full-time or part-time status.

For additional information on the specific NTPS-related topics discussed in this appendix, consult the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming) or the *User's Manual for the 2015–16 National Teacher and Principal Survey, Volumes 1–4* (Goldring et al. 2017). To access additional general information on NTPS or for electronic copies of the questionnaires, go to the NTPS home page (<a href="https://nces.ed.gov/surveys/ntps">https://nces.ed.gov/surveys/ntps</a>).

### Sampling Frames and Sample Selection

Teachers were defined as staff members who teach regularly scheduled classes to students in any of grades K–12. Teacher Listing Forms (i.e., teacher rosters) were collected from sampled schools, by mail and online. When this failed, Teacher Listing Forms were obtained, where possible, via clerical look-up or vendor purchase and compiled at the Census Bureau. This compilation was done on an ongoing basis throughout the roster collection period. Along with the names and e-mail addresses of teachers, sampled schools were asked to provide information about each teacher's teaching status (full or part time) and subject matter taught (special education, general elementary, math, science, English/language arts, social studies, vocational/technical, or other).

Sampling was done on an ongoing basis throughout the roster collection period. Prior to allocating teachers to strata, the Census Bureau first allocated an overall number of teachers to be selected. An average of six to eight teachers were selected per school, depending on the school's grade range, urbanicity, and poverty status. Within each sampled school, teachers were stratified by subject, as follows: math, science, English/language arts, social studies, and everything else. No oversampling was performed. Teachers within a school domain and teacher stratum were sorted by the subject matter taught and the teacher line number code. The teacher line number is a unique number assigned to identify the individual within the teacher list. Within each teacher stratum in each school, teachers were selected systematically with equal probability.

The maximum number of sampled teachers per school was set at 20, in order to avoid overburdening a school by sampling too large a proportion of its teachers. An average of six to eight teachers were sampled per school. About 16 percent of the eligible public schools did not provide teacher lists that could be used for sampling teachers. For the remaining 84 percent of the eligible public schools, teacher lists

were obtained either by a clerical look-up operation or a list purchased from a vendor. About 40,000 public school teachers were sampled.

Teacher Listing Forms were collected from schools in the 2015–16 NTPS public schools sampling frame. The starting point of this sampling frame was the preliminary 2013–14 Common Core of Data (CCD) Nonfiscal School Universe data file. The sampling frame was adjusted from the CCD to fit the definition of a school eligible for NTPS. To be eligible for NTPS, a school was defined as an institution or part of an institution that provides classroom instruction to students, has one or more teachers to provide instruction, serves students in one or more of grades 1–12 or the ungraded equivalent, and is located in one or more buildings apart from a private home. It was possible for two or more schools to share the same building; in that case, they were treated as different schools if they had different administrators (i.e., principal or school head). This definition is unchanged from the Schools and Staffing Survey (SASS).

The 2015–16 NTPS universe of schools is confined to the 50 states plus the District of Columbia and excludes the other jurisdictions, Department of Defense overseas schools, and CCD schools that do not offer teacher-provided classroom instruction in grades 1–12 or the ungraded equivalent. This last group includes schools that are essentially administrative units that may oversee entities that provide classroom instruction or may only provide funding and oversight. Although Bureau of Indian Education-funded (BIE) schools are included in NTPS, these schools were not oversampled and the data do not support separate BIE estimates.

The NTPS definition of a school is generally similar to the CCD definition, with some exceptions. NTPS allows schools to define themselves. During SASS collection, Census Bureau staff observed that in situations where two or more schools have the same administration, these schools were reported separately on CCD but generally reported as one entity for SASS. Thus, CCD schools with the same location, address, and phone number were collapsed during the frame building on the assumption that the respondent would consider them to be one school. Due to similarities with SASS, NTPS also followed the same type of collapsing procedure. A set of rules was applied to determine in which instances school records should be collapsed together. When school records were collapsed together, the student and teacher counts, grade ranges, and names as reported to CCD were all modified to reflect the change.

Finally, since CCD and NTPS differ in scope and their definition of a school, some records were deleted, added, or modified to provide better coverage and a more efficient sample design for NTPS. For a detailed list of frame modifications, see the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming). After deleting, collapsing, and adding school records, the NTPS public school sampling frame consisted of about 87,600 traditional public schools and 6,500 public charter schools

NTPS uses a systematic, probability proportionate to size (PPS) sample (for an explanation of PPS sampling, see Cochran 1977). Unlike SASS, NTPS did not stratify schools prior to sampling. Rather, some types of schools were oversampled based on specific characteristics such as the following:

- School grade level (primary, middle, high, combined);
- Collapsed urbanicity (city, suburban, town, rural); and
- Charter status.

In addition to oversampling based on specific school characteristics, sample sizes were inflated for schools in the six states with the smallest number of schools: Alaska, District of Columbia, Hawaii, Rhode Island, Vermont, and Wyoming.

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<sup>&</sup>lt;sup>1</sup> For more information about CCD, see <a href="https://nces.ed.gov/ccd/">https://nces.ed.gov/ccd/</a>.

Prior to sampling, schools were sorted by the following:

- charter status;
- school grade level (four categories);
- urbanicity (four categories);
- poverty status (four categories);
- school size category (based on full-time equivalent [FTE] teachers; two categories for middle and combined charter schools, three categories for all other schools);
- school type for noncharter schools (four categories);
- state; and
- the number of FTE teachers.

These sampling procedures resulted in a total public school sample of about 7,130 traditional public schools and 1,170 public charter schools.

#### **Data Collection Procedures**

In 2015–16, NTPS employed a combined mail-based and internet survey approach, with subsequent telephone and in-person follow-up. Data collection included the Teacher Listing Form (TLF), the Principal Questionnaire, the School Questionnaire, and the Teacher Questionnaire. This report focuses on the Teacher Questionnaire.

In preparation for school-level data collection, advance letters were mailed to the sampled schools in June 2015 to verify their addresses. Initial school packages were mailed in September 2015. Next, schools were telephoned using a computer-assisted telephone-interviewing instrument to verify school information, establish a survey coordinator, and follow up on the TLF if the school had not already provided an electronic teacher list. Teacher questionnaires were mailed to schools on a flow basis as teachers were sampled on an ongoing basis from the data provided on the TLF or electronic teacher list. The in-person follow-up period was preceded by phone calls from the telephone centers to remind the survey coordinators to have staff complete and return all forms. Nonresponding teachers were also called from the telephone centers and asked to complete the questionnaire by phone. Data collection ended in August 2016.

One of the main goals of the data collection plan for the 2015–16 NTPS was to target the schools that presented a challenge to data collection during previous administrations of SASS. These "known difficult" schools have resulted in poor response rates for certain school types (e.g., large schools in urban areas). Sampled schools that have a known large impact on weighting were targeted, as well. These schools were identified during sampling, and their data collection priority flag was set accordingly. Contact strategies that were more proactive during the early phases of data collection were employed during 2015–16 NTPS data collection to mitigate potential low response rates for these cases. Survey coordinators also were utilized during data collection. The role of the survey coordinator was to be the primary contact person at the school. A survey coordinator's duties included facilitating data collection by passing out questionnaires to the appropriate staff, reminding the staff to complete their questionnaires, and collecting the questionnaires to return. The data collection follow-up strategies for schools with a survey coordinator were different from schools without a survey coordinator, with the more proactive approach taken for those schools without a survey coordinator.

<sup>2</sup> The NTPS school package contained a letter to the principal, an interior envelope containing a letter to the survey coordinator, the Teacher Listing Form, the Principal Questionnaire, the School Questionnaire, and postage-paid return envelopes.

## **Data Processing and Imputation**

The Census Bureau checked returned questionnaires, keyed the data, and implemented quality control procedures. Questionnaires that had a preliminary classification of a complete interview were submitted to a series of computer edits consisting of a range check, a consistency edit,<sup>3</sup> a blanking edit,<sup>4</sup> and a logic edit.<sup>5</sup> After these edits were run and reviewed by analysts, the records were put through another edit to make a final determination as to whether the case was eligible for the survey and whether sufficient data had been collected for the case to be classified as a complete interview.

After the final edits were run, cases with "not-answered" values for items remained. Values were imputed for these cases using two main approaches. First, donor respondent methods, such as hot-deck imputation, were used. Second, if no suitable donor case could be matched, the few remaining items were imputed using mean or mode from groups of similar cases to impute a value to the item with missing data. After each stage of imputation, computer edits were run again to verify that the imputed data were consistent with the existing questionnaire data. If that was not the case, an imputed value was blanked out by one of these computer edits due to inconsistency with other data within the same questionnaire or because it was out of the range of acceptable values. In these situations, Census Bureau analysts looked at the items and tried to determine an appropriate value. Edit and imputation flags, indicating which edit or imputation method was used, were assigned to each relevant survey variable. For further information, see the sections on data processing and imputation in the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming).

### **Response Rates**

**Unit response rates.** The unit response rate indicates the percentage of sampled cases that met the definition of a complete interview. The weighted NTPS unit response rate was produced by dividing the weighted number of respondents who completed questionnaires by the weighted number of eligible sampled cases, using the initial base weight (the inverse of the probability of selection). Table B-1 summarizes the weighted unit response rates for each survey type.

Table B-1. Weighted unit and overall response rates using initial base weight, by survey: 2015–16

	Unit response rate	Overall response
Survey	(percent)	rate (percent)
Public School Teacher Listing Form	84.4	†
Public School Teacher	67.8	57.2

<sup>†</sup> Not applicable.

NOTE: Response rates were weighted using the inverse of the probability of selection (initial base weight). SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Documentation Data File," 2015–16.

**Overall response rate.** The overall response rate represents the response rate to the survey taking into consideration each stage of the survey. For teachers, the overall response rate is calculated as the product

<sup>&</sup>lt;sup>3</sup> The consistency edits identified inconsistent entries within each case and, whenever possible, corrected them. If the inconsistencies could not be corrected, the inconsistent entries were deleted.

<sup>&</sup>lt;sup>4</sup> Blanking edits delete answers to questions that should not have been filled in (e.g., if a respondent followed a wrong skip pattern).

<sup>&</sup>lt;sup>5</sup> Data were added to questionnaire records during the logic edits, which filled in some items where data were missing or incomplete using other information on the same questionnaire or from other related data sources.

<sup>&</sup>lt;sup>6</sup> For the formula used to calculate the unit response rate, see 2012 Revision of NCES Statistical Standards: Final (NCES 2014-097).

of the response rate to two stages: the TLF and the teacher questionnaire. The weighted overall response rate using the initial base weight for public school teachers was 57.2 percent.

**Unit nonresponse bias analysis.** Because the *NCES Statistical Standards* (4-4) require analysis of nonresponse bias for any survey stage with a base-weighted response rate less than 85 percent, the NTPS teacher file was evaluated for potential bias. National-level estimates were first examined for potential bias. The base-weighted<sup>8</sup> unit response rate was calculated. The following frame characteristics were used for the Public School Teachers Data File:

- *Charter status:* noncharter, charter
- *Enrollment:* less than 200, 200 to less than 500, 500 to less than 750, 750 to less than 1,000, 1,000 or more
- Percent of enrollment with race other than White: less than 5 percent, 5 to less than 10 percent, 10 to less than 20 percent, 20 to less than 30 percent, 30 to less than 50 percent, 50 percent or more
- Percent free or reduced-price lunch eligible: less than 35 percent, 35 to less than 50 percent, 50 to less than 75 percent, 75 percent or more
- *Community type (locale):* city, suburb, town, rural
- Pupil-teacher ratio: less than 10, 10 to less than 15, 15 to less than 20, 20 or more
- Grade level: primary, middle, high, combined
- Region: Northeast, Midwest, South, West
- *Number of teachers:* less than 10, 10 to less than 25, 25 to less than 50, 50 to less than 75, 75 or more
- Title I status: Title I program, Title I noneligible, Title I eligible but no Title I program
- Teacher status: full-time, part-time, not reported
- *Subject taught:* special education, general elementary, math, science, English/language arts, social studies, vocational/technical, other, not reported

As shown in table B-1, the weighted response rate using the initial base weight for the Teacher Listing Form (TLF) was 84.4 for public schools. The weighted questionnaire response rate using the initial base weight for the teacher survey was 67.8 percent for public school teachers.

For the teacher survey, nonresponse can occur both at the school level and at the teacher level. Some schools did not provide a TLF and teachers could not be sampled from schools for which a list was not obtained. Some sampled teachers from schools that provided a TLF did not participate in the survey. To reflect this, national estimates were examined for potential bias at the school level and at the teacher level.

For the TLF, the school base-weighted distribution of TLF respondents was compared to the base-weighted distribution of eligible schools through *t* tests to find any school groups with potential bias prior to TLF nonresponse adjustments. Table B-2 presents national-level school groups with a statistically significant difference in base-weighted percentages between the eligible cases and respondents.

<sup>&</sup>lt;sup>7</sup> For the formula used to calculate the overall response rate, see 2012 Revision of NCES Statistical Standards; Final (NCES 2014-097).

<sup>&</sup>lt;sup>8</sup> Unit nonresponse bias analysis was conducted using the base weight, defined as the product of the initial base weight (the inverse of the probability of selection) and the sampling adjustment factor. The sampling adjustment factor is an adjustment that accounts for circumstances that affect the school's probability of selection that are identified after the data collection has begun, such as a merger, duplication, or incorrect building-level collapsing (e.g., a junior high school and a senior high school merge to become a junior/senior high school).

Table B-2. Indication of potential sources of bias for public school teacher data at the national level based on comparisons between eligible teacher distribution and base-weighted or nonresponse-adjusted respondent distributions: 2015–16

	D 1	01:		Listing Form	Teacher Quest	
-	Potential source of bias respondent distribution		respondent distribution			
Estimate level	Characteristic	Value	Base- weighted distribution	Nonresponse- adjusted distribution	Weighted distribution prior to weighting adjustment	Final- weighted distribution
National	Charter status	Noncharter	X			X
National	Charter status	Charter	X			X
National	Enrollment	Less than 200			X	
National	Enrollment	200 to less than 500	X		X	X
National	Enrollment	500 to less than 750			X	
National	Enrollment	750 to less than 1,000	X			
National	Enrollment	1,000 or more	X	X	X	
National	Community type	City	X		X	X
National	Community type	Suburban	X		X	
National	Community type	Town	X		X	X
National	Community type	Rural	X		X	X
National	Number of teachers	10 to less than 25	X	X	X	
National	Number of teachers	25 to less than 50			X	
National	Number of teachers	50 to less than 75	X		X	
National	Number of teachers	75 or more	X	X	X	
National	Percent free lunch eligible	Less than 35%	X			
National	Percent free lunch eligible	35% to less than 50%	X			
National	Percent free lunch eligible	50% to less than 75%	X	X	X	
National	Percent free lunch eligible	75% or more			X	
National	Percent non-White	Less than 5%	X		X	
National	Percent non-White	5% to less than 10%	X		X	
National	Percent non-White	10% to less than 20%			X	
National	Percent non-White	20% to less than 30%			X	
National	Percent non-White	50% or more	X		X	
National	Pupil-teacher ratio	Less than 10	X			
National	Pupil-teacher ratio	10 to less than 15				X
National	Pupil-teacher ratio	15 to less than 20	X	X	X	X
National	Pupil-teacher ratio	20 or more			X	
National	Grade level	Primary			X	
National	Grade level	High			X	
National	Grade level	Combined			X	
National	Region	Northeast	X		X	X
National	Region	Midwest	X		X	X
National	Region	South				X
National	Region	West			X	X
National	Title I status	Title I program	X		X	
National	Title I status	Noneligible	X			X
National		Eligible, but no program	X	X		
National	Teacher status	Full-time teachers			X	X
National	Teacher status	Part-time teachers			X	X
National	Teacher status	Not reported			X	X

See notes at end of table.

Table B-2. Indication of potential sources of bias for public school teacher data at the national level based on comparisons between eligible teacher distribution and base-weighted or nonresponse-adjusted respondent distributions: 2015–16—Continued

	Potential source of	bias		isting Form distribution	Teacher Quest	
					Weighted	
			Base-	Nonresponse	distribution	Final-
Estimate			weighted	-adjusted	prior to weighting	weighted
level	Characteristic	Value	distribution	distribution	adjustment	distribution
National	Subject taught	Special education			X	X
National	Subject taught	General elementary			X	
National	Subject taught	Math			X	X
National	Subject taught	English/language art			X	
National	Subject taught	Vocational/technical			X	X
National	Subject taught	Other			X	X
National	Subject taught	Not reported			X	

NOTE: x denotes comparisons that are a potential source of bias.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Listing Form; and Public School Teacher Documentation Data Files," 2015–16.

Additionally, the base-weighted unit response rate for TLF of each school group was compared to the overall base-weighted unit response rate through a *t* test, and the base-weighted distribution of TLF respondents and the base-weighted distribution of nonrespondents were compared through a likelihood ratio chi-square test to find any groups that would have been over- or under-represented by the respondents without nonresponse adjustment. The results from each set of tests were mostly consistent with the results presented in table B-2. The respondents and nonrespondents had different distributions by each frame variable with a school group showing potential bias before TLF nonresponse adjustments. Each school group with evidence of potential bias before TLF nonresponse adjustment had a significant difference in response rate from the overall response rate, except the school group with 50-75 teachers. The response rate for combined schools was different from the overall response rate, but the school group did not show a significant difference in base-weighted percentage between the eligible cases and respondents.

Nonresponse adjustments were designed to reduce or eliminate nonresponse bias. The nonresponse-adjusted comparisons to the eligible schools shown in table B-2 reflect the nonresponse adjustment. This table shows that nonresponse adjustments eliminated most but not all evidence of potential bias for the TLFs. Evidence of potential bias remains after TLF nonresponse adjustments for the following national-level items included in the analysis:

- Enrollment, for schools with 1,000 or more students;
- Number of teachers, for schools with 10 to less than 25 teachers and with 75 or more teachers;
- Percent free or reduced-price lunch eligible, for schools with 50 percent to less than 75 percent of students were eligible for free or reduced-price lunches;
- Pupil-teacher ratio, for schools with a pupil-teacher ratio of 15 to less than 20; and
- Title I status, for schools that are eligible for Title I but are not Title I schools.

Similar analyses were conducted for the teacher questionnaire. The weighted distribution of teacher respondents was compared to the weighted distribution of eligible teachers through *t* tests to find any school or teacher groups with potential bias prior to teacher weighting adjustments. Table B-2 presents national-level school and teacher groups with a statistically significant difference in weighted percentages between the eligible cases and respondents. This analysis used a particular set of weights that are equal to

the base weights of the teacher's school, multiplied by the TLF nonresponse adjustment factors of the teacher's school and divided by the teacher's selection probability within the school. Additionally, the base-weighted response rate for the teacher questionnaire of each school and teacher group was compared to the overall base-weighted unit response rate through a t test and the base-weighted distribution of teacher respondents and the base-weighted distribution of nonrespondents were compared through a likelihood ratio chi-square test to find any groups that would have been over- or under- represented by the respondents without weighting adjustment for teachers. The results from each set of tests were mostly consistent with the results presented in table B-2. Each school and teacher group listed with evidence of potential bias before teacher weighting adjustment had a significant difference in response rate from the overall response rate. The respondents and nonrespondents had different distributions by each frame variable with a school/teacher group showing potential bias before weighting adjustments for teachers, except the Title I status variable.

Weighting adjustments for teachers were designed to reduce or eliminate nonresponse bias and to reduce the variance introduced due to sampling by adjusting the sample estimates to known totals from the frame. The final-weighted comparisons to eligible cases shown in table B-2 reflect the effect of weighting adjustment. This table shows that weighting adjustments eliminated some but not all evidence of potential bias and introduced potential bias for some items. Evidence of potential bias remains after weighting adjustments for the following national-level items included in the analysis:

- Enrollment, for teachers in schools with 200 to less than 500;
- Community type, for teachers in city schools, town schools, and rural schools;
- Pupil-teacher ratio, for teachers in schools with a pupil-teacher ratio of 15 to less than 20;
- Region, for teachers in schools in the Northeast region, in the Midwest region, and in the West region;
- Teacher status, for full-time teachers, part-time teachers, and teacher with no reported status; and
- Subject taught, for teacher with a main subject of special education, math, vocational/technical, and other

Evidence of potential bias formed after nonresponse adjustments for the following national-level for teacher items included in the analysis:

- Charter status, for teachers in charter schools and noncharter schools;
- Pupil-teacher ratio, for teachers in schools with a pupil-teacher ratio of 10 to less than 15;
- Region, for teachers in schools in the South region; and
- Title I status, for teachers in Title I schools that are not eligible for Title I.

For further information on unit response rates and nonresponse bias analysis, see the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming).

**Item response rates.** The item response rate indicates the percentage of respondents who answered a given survey question or item. The weighted NTPS item response rate is calculated by dividing the weighted number of respondents who provided an answer to an item by the weighted number of respondents who were eligible to answer that item. Table B-3 provides a summary of the weighted item response rates. For the public school teacher data, ten of the survey items included in this report have item response rates less than 85 percent. Those items were: (1) question 2-13d[8], number of students from the eighth subject the teacher reported teaching; (2) and (3) question 2-13d[9], the ninth subject the teacher reported teaching and the number of students for the subject; (4) and (5) question 2-13d[10], the tenth subject the teacher reported teaching and the number of students for the subject; (6) question 4-3c[2],

<sup>&</sup>lt;sup>9</sup> For the formula to calculate the item response rate, see 2012 Revision of NCES Statistical Standards: Final (NCES 2014-097).

grade range of teaching certificate; (7) and (8) question 4-3e[1] additional content area and its grade range certification; (9) question 8-1b-[1] whether summer earnings working a non-teaching job came from current school; and (10) question 8-8 amount of retirement pension check from a teacher retirement system. For further information on item response rates and bias analysis, see the *Survey Documentation* for the 2015–16 National Teacher and Principal Survey (Cox et al. forthcoming).

Table B-3. Summary of weighted item response rates, by survey: 2015–16

	Percent of items with a	Percent of items with a
	response rate of	response rate of
Survey	85 percent or more	less than 85 percent
Public School Teacher	96.6	3.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Listing Forms; and Public School Teacher Documentation Data Files," 2015–16.

## Weighting

The general purpose of weighting is to scale up the sample estimates to represent the target survey population. The base weight for teacher sampling is generated by taking the base weight for school sampling (representing the reciprocal of the probability of selection of the school), adjusted for sample schools for which a TLF is not obtained, and multiplying this by the reciprocal of the probability of selection of the teacher within the school (from the TLF). Teacher samples are only drawn from schools for which a TLF is obtained, so adjustment needs to be made for schools for which TLFs are not obtained. The teacher sample is drawn from the TLF in a probability sample.

Next, a nonresponse adjustment factor for teacher nonresponse is calculated and applied based on a weighting cell adjustment. Weighting cells for teacher nonresponse are developed using tree search algorithms. These cells are selected to be homogeneous in response propensity within cells and heterogeneous in response propensity across cells (response propensity is the underlying "chance" that a particular sample unit will respond by completing the questionnaire: its individual response rate). The adjustment is the inverse of the weighted teacher response rate within each cell, and each respondent in the cell receives this adjustment. Nonrespondents are given weights of zero: the respondents are reweighted to represent the nonrespondents. The variables examined for potential bias were the same as those used by the tree search algorithms. All subgroups that showed potential bias as given in table B-2 above were used as cell generators by the tree search algorithms, as well as other subgroups which are related, and may show differential response conditional on other subgroups (i.e., they may be chosen as cell generators by the tree search algorithm within particular branches).

For the Public School Teacher Data File, a raking factor is calculated and applied to the sample to adjust the sample totals to CCD frame totals for FTE teachers, so that the sum of the weights within each of the specified cells is equal to the corresponding CCD frame total for the cell. These cells are defined based on school level, urbanicity, and percentage of students eligible for free or reduced-price lunch. The first dimension combines school level and the percentage of students eligible for free or reduced-price lunch. The second dimension combines school level and urbanicity. The weights are adjusted to these frame totals by an iterative process, referred to as raking, until the weights simultaneously aggregate to be equal to each set of frame totals. In some cases, extreme weights may be trimmed back to a cutoff value. This all improves the precision of survey estimates.

The product of these factors is the final weight for each NTPS respondent, which appears as TFNLWGT on the NTPS Public School Teacher Data File.

The counts in table 1 (in the Estimate Tables section) do not necessarily match the frame counts because some cases in the frame were found to be ineligible (i.e., out of scope).

#### Variance Estimation

In surveys with complex sample designs, such as NTPS, direct estimates of sampling errors that assume a simple random sample typically underestimate the variability in the estimates. The NTPS sample design and estimation include procedures that deviate from the assumption of simple random sampling, such as sampling with differential probabilities.

One method of calculating sampling errors of complex sample designs is jackknife replication. Jackknife replication methods involve dropping a small portion of the sample from the full sample and computing the statistic of interest for the retained and reweighted sample (the jackknife replicate). The sum of squares of the replicate estimates around the full sample estimate provides an estimate of the variance of the statistic. The NTPS teacher data file includes a set of 200 replicate weights designed to produce variance estimates. The set of replicate weights for each file should be applied to the respondents in that file. The replicate weights for NTPS respondents are TREPWT1–TREPWT200 for teachers.

# Reliability of Data

NTPS estimates are based on samples. The sample estimates may differ somewhat from the values that would be obtained from the universe of respondents using the same questionnaire, instructions, and field representatives. The difference occurs because a sample survey estimate is subject to two types of errors: nonsampling and sampling. Estimates of the magnitude of sampling error for NTPS data can be derived or calculated. Nonsampling errors are attributed to many sources, including definitional difficulties, the inability or unwillingness of respondents to provide correct information, differences in the interpretation of questions, an inability to recall information, errors made in collection (e.g., in recording or coding the data), errors made in processing the data, and errors made in estimating values for missing data. Quality control and edit procedures were used to reduce errors made by respondents, coders, and interviewers.

# **Comparability to SASS**

NTPS is a new survey that is strongly based on SASS. However, care must be taken in estimating changes over time in data elements that both surveys have in common because some of the change measured may not be attributable to a change in the education system.

Some of the change may be due to changes in the sampling frame, changes in the questionnaire item wording, or other changes. Additionally, NTPS is a different survey than SASS and pulls data from a larger variety of sources and timeframes than SASS did. While SASS collected data on student race/ethnicity, special programs, and high school graduation, the 2015–16 NTPS gets this information from external sources. Data on student gender and race/ethnicity are taken from the 2014–15 CCD, while graduation rates come from the 2014–15 *EdFacts* data and information on special programs <sup>10</sup> came from the 2013–14 Civil Rights Data Collection.

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<sup>10</sup> Special programs include: magnet programs, gifted programs, disciplinary programs, Advanced Placement classes, and International Baccalaureate classes.

Additionally, the 2015–16 NTPS is not representative at the state level, and comparisons to SASS may only be made at the national level. Private sector schools were not included in the 2015–16 NTPS. The next round of NTPS, in 2017–18, will include private sector schools and be representative at the state level

# **Appendix C: Description of Variables**

# **Description of Variables**

The variables that are included in this report are listed in table C-1. Those with variable names that begin with "T" and are followed by four digits are survey variables that come from items on the school teacher questionnaire. The variables without the letter plus four digit names are "derived variables," meaning they were created using survey variables, frame variables (variables taken from the sampling frame), other created variables, or a combination of these. They are frequently used in National Center for Education Statistics publications and have been added to the data files to facilitate data analysis. The definitions for the created variables follow table C-1.

Table C-1. Variables used in the *Characteristics of Public Elementary and Secondary School Teachers in the United States: Results From the National Teacher and Principal Survey* report: 2015–16

Variable	Variable name in data file
Average amount of salary supplements from additional compensation based on students' performance	T0913
Average amount of salary supplements from extracurricular activities in same school system	T0911
Average amount of salary supplements from jobs outside the school system	T0917
Average amount of salary supplements from other school system sources	T0915
Average class size for teachers in departmentalized instruction <sup>1</sup>	Not in file
Average class size for teachers in self-contained classes	T0223
Average base teaching salary of regular full-time teachers	T0909
Average school year earnings from all sources <sup>1</sup>	Not in file
Average hours per week paid to deliver instruction during a typical full week	T1601
Average hours required by contract to work during a typical full week	T1600
Average hours spent on all teaching and other school-related activities during a typical full week	T1602
Charter school identifier <sup>1</sup>	CHARFLAG
Collapsed school locale code <sup>1</sup>	URBANS12
Four-category school level <sup>1</sup>	SCHLEV_4CAT
Highest degree earned	HIDEGR
Number/percent of regular full-time teachers	T0100
Number of years of experience as an elementary or secondary teacher in public and private schools	T0110
Number of years teaching at current school	T0105
Percentage of students in the school approved for the National School Lunch Program <sup>1</sup>	NSLAPP_S
Percentage of teachers who felt have any influence over setting performance standards for students	T1700
Percentage of teachers who felt have any influence over establishing curriculum	T1701
Percentage of teachers who felt have any influence over content of in-service professional development	T1702

See notes at end of table.

Table C-1. Variables used in the *Characteristics of Public Elementary and Secondary School Teachers in the United States: Results From the National Teacher and Principal Survey* report: 2015–16—Continued

Variable Variable	Variable name in data file
Percentage of teachers who felt have any influence over evaluating teachers	T1703
Percentage of teachers who felt have any influence over hiring new full-time teachers	T1704
Percentage of teachers who felt have any influence over setting discipline policy	T1705
Percentage of teachers who felt have any influence over deciding how the school budget will be spent	T1706
Percentage of teachers who have any control over selecting textbooks and other instructional materials	T1707
Percentage of teachers who have any control over selecting contents, topics, and skills to be taught	T1708
Percentage of teachers who have any control over selecting teaching techniques	T1709
Percentage of teachers who have any control over evaluating and grading students	T1710
Percentage of teachers who have any control over disciplining students	T1711
Percentage of teachers who have any control over determining the amount of homework	T1712
Percentage of teachers who took courses before their first year in classroom management techniques	T0340
Percentage of teachers who took courses before their first year in lesson planning	T0341
Percentage of teachers who took courses before their first year in learning assessment	T0342
Percentage of teachers who took courses before their first year in using student performance data to inform instruction	T0343
Percentage of teachers who took courses before their first year in serving students from diverse economic backgrounds	T0344
Percentage of teachers who took courses before their first year in serving students with special needs	T0345
Percentage of teachers who took courses before their first year in teaching students who are limited-English proficient students or English-language learners	T0346
Percentage of teachers with salary supplement from additional compensation based on students' performance	T0912
Percentage of teachers with salary supplement from extracurricular activities in same school system	T0910
Percentage of teachers with salary supplement from jobs outside the school system	T0916
Percentage of teachers with salary supplement from other school system sources	T0914
Student enrollment in K-12 and ungraded <sup>1</sup>	SCHSIZE
Teacher's age <sup>1</sup>	AGE_T
Teacher's race/ethnicity	T0928-T0933
Teacher's sex	T0924

<sup>&</sup>lt;sup>1</sup> The definition for this variable can be found below.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16.

**Average school year earnings from all sources:** A variable that combines the amount a teacher earned from all possible sources during the school year (T0909, T0911, T0913, T0915, T0917).

Average class size for teachers in departmentalized instruction: This variable is a combination of all possible class size responses for teachers with departmentalized instruction (T0260, T0261, T0262, T0263, T0264, T0265, T0266, T0267, T0268, T0269) divided by the number of classes taught.

Charter school identifier (CHARFLAG): A flag variable taken from the Public School Data File that identifies charter schools. 1 = School is a public charter school, 2 = School is a traditional public school. A charter school is a public school that, in accordance with an enabling state statute, has been granted a charter exempting it from selected state or local rules and regulation. CHARFLAG is based on S0500 from the Public School Data File.

Collapsed school locale code (URBANS12): Taken from the Public School Data File, URBANS12 is a created variable collapsed from the 12-category urban-centric school locale code (SLOCP12) which was updated to incorporate Census population and geography information and recoded into four categories: city, suburban, town, and rural.

**Four-category school level (SCHLEV\_4CAT):** Taken from the Public School Data File, SCHLEV\_4CAT is a four-category variable based on grades reported by the school: primary, middle, high, and combined. Primary schools are those with at least one grade lower than 5 and no grade higher than 8. Middle schools have no grade lower than 5 and no grade higher than 8. High schools have no grade lower than 7 and at least one grade higher than 8. Combined schools are those with at least one grade lower than 7 and at least one grade higher than 8, or with all students in ungraded classrooms.

**Highest degree earned (HIDEGR):** A variable that indicates the highest degree a teacher has earned. Computed using the variables T0300, T0312, T0328, T0331, and T0334.

Percentage of students in school approved for the National School Lunch Program (NSLAPP\_S): Taken from the Public School Data File, NSLAPP\_S is a continuous variable created by dividing the number of K-12 and ungraded students approved for free or reduced-price lunches (S0410) by the total number of K-12 and ungraded students enrolled (S0115) among schools that participated in the National School Lunch Program (NSLP) (S0409=1). Schools that did not participate in the NSLP have valid skip values. For this report, NSLAPP\_S is recoded as a categorical variable describing the proportion of students approved for free or reduced-price lunches.

**Student enrollment in K–12 and ungraded (SCHSIZE):** Taken from the Public School Data File, SCHSIZE is a categorical variable based on the number of K–12 and ungraded students enrolled in the school (S0115). For this report, SCHSIZE was recoded into six categories for public schools.

**Teacher's age (AGE\_T):** A variable based on a respondent's reported year of birth. AGE\_T is a continuous variable that was created by subtracting the teacher's reported year of birth (T0934) from the year of data collection (2015).